Exposure of Children to Indoor Molds

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Children now spend more than 90% of their time indoors. Thus, any exposure to indoor pollutants may be critical to their health. Molds are one of the most important pollutants that children are exposed to indoors. Molds produce hundreds of allergens and toxins. These products have been shown to cause many serious health problems, including allergy and asthma. Asthma causes thousands of deaths and cost billions of dollars to treat. Mold exposures cannot be completely eliminated, so it is critical to determine which molds are problematic and at what concentrations and to seek methods to reduce their occurrence.

A team of EPA researchers from NERL, NHEERL, NRMRL, and NCEA has made significant progress in understanding mold exposures and their impact on children's health. So far, this team has

- Patented and applied molecular technology (QPCR) to identify and quantify indoor molds.
- Licensed and trained more than 15 commercial firms in the US and UK in using "mold technology" for analyzing environmental samples.
- Identified mold proteins that induce allergic asthma-like responses in mouse models.
- Discovered that many indoor molds produce hemolytic agents.
- Tested chemical and physical controls for indoor molds and determined which ones work.
- Applied the noninvasive visual contrast sensitivity test to show neurotoxicity from mold exposure.

Based on these results, a risk assessment/risk model for mold exposures is being developed.